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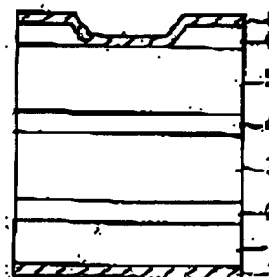
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## (54) COMPOUND SEMICONDUCTOR ELEMENT

(57)Abstract:

PURPOSE: To accomplish high efficiency of a semiconductor element by providing a cubic crystal SiC substrate and a  $GaxAlxIn_{1-x-y}N$  ( $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$ ) layer.

CONSTITUTION: A GaN buffer layer 2 of  $1 \mu m$  in thickness, a clad layer 3 consisting of p-GaAlInN of  $1 \mu m$  in thickness, a light-emitting layer 4 consisting of undoped GaAlInN of  $0.1 \mu m$  in thickness, are formed successively on a 3C-SiC substrate 1, and a semiconductor layer is composed of the above-mentioned layers. As the clad layer 5, consisted of final GaAlInN, is formed in N-type in this semiconductor laser, the taking-in of hydrogen into the p-GaAlInN clad layer 3 can be prevented, and a low resistance p-GaAlInN clad layer 3 can be formed. As a result, a high brightness short wavelength light-emitting element can be obtained.



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